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Providing Information across Multiple Devices to the Public Health Workforce: Challenges and Opportunities

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University of Massachusetts Medical School

Et al.

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Providing Information across Multiple Devices to the Public Health Workforce: Challenges and Opportunities

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University of Massachusetts Medical School

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National Library of Medicine

June 10, 2015

Public Health Partners

- Partners in Information Access for the Public Health Workforce (PHPartners)
 - Public Health Organizations
 - Federal Government Agencies
 - Health Science Libraries
- Founded in 1997
- Mission: To help the public health workforce find and use information effectively to improve and protect the public's health.
- Website: <http://PHPartners.org>

Partners in Information Access for the Public Health Workforce

- Agency for Healthcare Research and Quality (AHRQ) 
- American Public Health Association (APHA) 
- Association of Schools & Programs of Public Health (ASPPH) 
- Association of State and Territorial Health Officials (ASTHO) 
- Centers for Disease Control and Prevention (CDC) 
- Health Resources and Services Administration (HRSA) 
- Medical Library Association (MLA) 
- National Agricultural Library (NAL) 
- National Association of County and City Health Officials (NACCHO) 
- National Association of Local Boards of Public Health 
- National Library of Medicine (NLM) 
- National Network of Libraries of Medicine (NN/LM) 
- Public Health Foundation (PHF) 
- Society for Public Health Education (SOPHE) 

PHPartners.org



The screenshot shows the PHPartners.org homepage. At the top left is the logo and tagline: "Partners in Information Access for the Public Health Workforce. A collaboration of U.S. government agencies, public health organizations and health sciences libraries." To the right is a search bar labeled "Search PHPartners" with a "Go" button. Below the search bar is a navigation menu with links: Home | News | About Partners | Contact Us | Sitemap | FAQ | Suggest Link.

Our Mission
Helping the public health workforce find and use information effectively to improve and protect the public's health

Public Health Topic Pages

- ▶ Bioterrorism
- ▶ Dental Public Health
- ▶ Environmental Health
- ▶ HIV/AIDS
- ▶ How to Access Journal Articles
- ▶ Nutrition
- ▶ Obesity
- ▶ Public Health Genomics
- ▶ Veterinary Public Health
- ▶ Workforce Development

Main Topic Pages

- ▶ Health Promotion and Health Education
- ▶ Literature and Guidelines
- ▶ Health Data Tools and Statistics
- ▶ Grants and Funding
- ▶ Education and Training
- ▶ Legislation and Policy
- ▶ Conferences and Meetings
- ▶ Finding People
- ▶ Discussion and E-mail Lists
- ▶ Jobs and Careers

Current Public Health News

- World Health Statistics Reports on Global Health Goals for 194 Countries - 13-MAY-2015
- Share Your Ideas for Updating the National HIV/AIDS Strategy - 13-MAY-2015
- Report: 1 Billion People Smoke Tobacco, 240 Million Adults Suffer Alcohol-related Disorders Worldwide - 12-MAY-2015
- The Ebola Outbreak in Liberia is Over - 11-MAY-2015
- WHO Issues Best Practices for Naming New Human Infectious Diseases - 11-MAY-2015

[»»» more news](#)

Get the Latest Information on Public Health Topics of Interest

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In the Spotlight
PubMed Health

Practice Informed by Research
Healthy People 2020 | PubMed
Structured Evidence Queries

Public Health Information and Data Tutorial

Disaster Lit: The Resource Guide for Disaster Medicine and Public Health

VitalSigns™
Learn about the latest public health data.
[Read CDC Vital Signs™](#)

Against the Odds
Making a Difference in Global Health

THIS IS PUBLIC HEALTH.
thisispublichealth.org

- Information for public health practice
- Components:
 - Topic pages
 - Data, tools & statistics
 - Conferences/webinars
 - News
 - Jobs & careers
 - PubMed searches
 - Reports, guidelines and more!
- Updated daily
- Strong selection criteria

Public Health Workforce

Use of Mobile Technology Tools

Mobile Technology Tools	All Local Health Departments	Size of Population Served		
		<50,000	50,000-499,999	500,000+
Smartphones	91%	86%	97%	98%
Electronic Tablets	48%	40%	55%	75%

n=419

Public health departments are increasingly using mobile technology for activities and services including disaster preparedness and emergency response.

Sources: National Association of County and City Health Officials. 2013 National Profile of Local Health Departments. Washington, DC: National Association of County and City Health Officials, 2014. <http://nacchoprofilestudy.org/reports-publications/>.

Rubin S et al. The adoption of social media and mobile health technologies for emergency preparedness by local health departments: a joint perspective from NACCHO and the UPMC center for health security. J Public Health Manag Pract. 2014 Mar-Apr;20(2):259-63.

U.S. Mobile Device Use

Adult Americans:

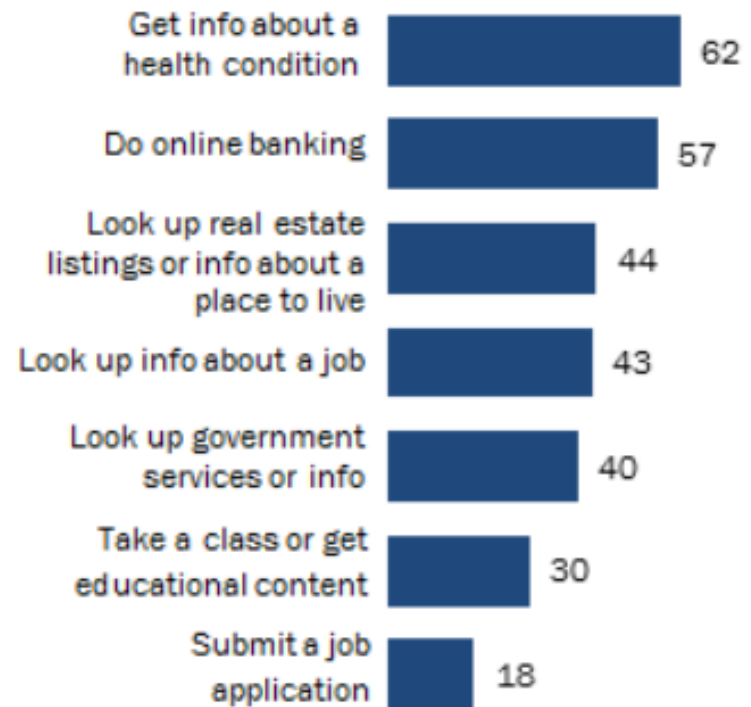
- 90% own a cell phone¹
- 64% own a smartphone²
- 32% own an e-reader¹
- 42% own a table computer¹

¹ As of October 2014

² As of January 2014

Source: Pew Research Center. Mobile Technology Fact Sheet. <http://www.pewinternet.org/fact-sheets/mobile-technology-fact-sheet/>

Americans use smartphones to:



Source: Pew Research Center American Trends Panel Survey, October 2014. http://www.pewinternet.org/2015/04/01/u-s-smartphone-use-in-2015/pi_2015-04-01_smartphones_03/

Responsive Design

- Allows users to have similar web experiences on all types of devices
 - smartphones, tablets, desktops, smart TVs, wearables, and future devices.
- Responsive web pages automatically change their visual layout to fit the screen
- Same URL and content optimized to display
- No need for separate mobile website

Responsive Web Design



- Flexible, grid-based layout
- Flexible images and media
- Style rules for pages based on characteristics of the device

Why Responsive Design for PHPartners.org?

- The public health workforce is using mobile technology (users of PHPartners.org)
- Technical team at NLM able to work on responsive design (technical support)
- Google's mobile-friendly algorithm:
 - In April 2015, Google expanded the use of mobile-friendliness as a ranking signal
 - Search results optimized for devices
 - Mobile-friendly sites rank higher in search results

The Process

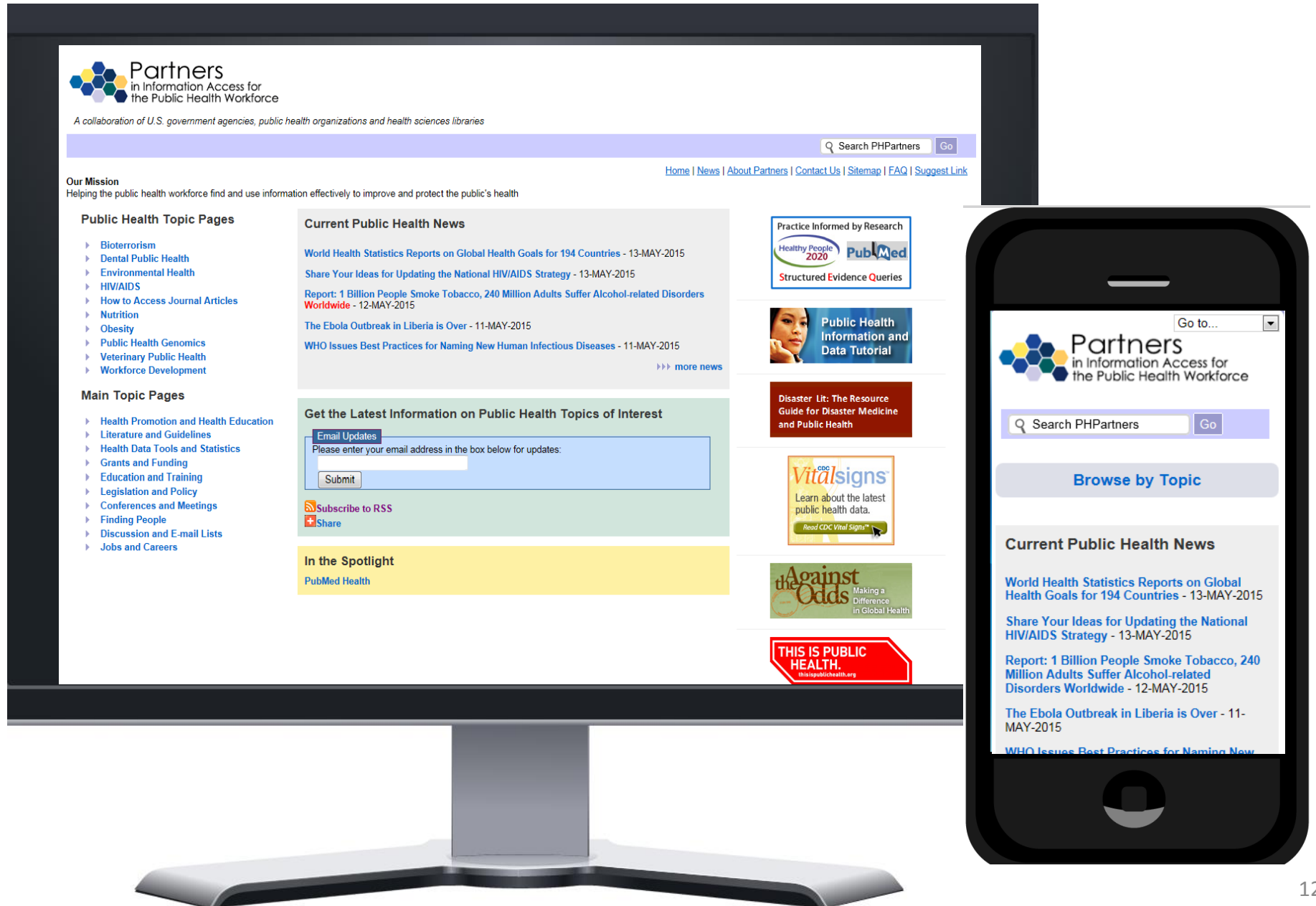
1. Reviewed Partner members' websites and responsively designed sites
2. Reviewed content: highest-value content first
3. Determined how to display content on different devices (desktop, tablet, smartphone)
4. Cleaned up code and integrated with content management system
5. Reviewed and tested on development/beta site

Mobile-friendly PHPartners.org

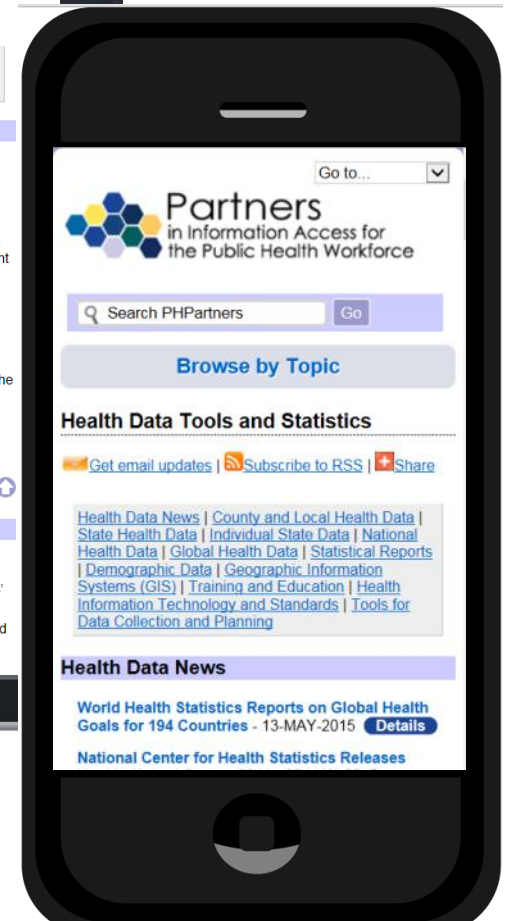
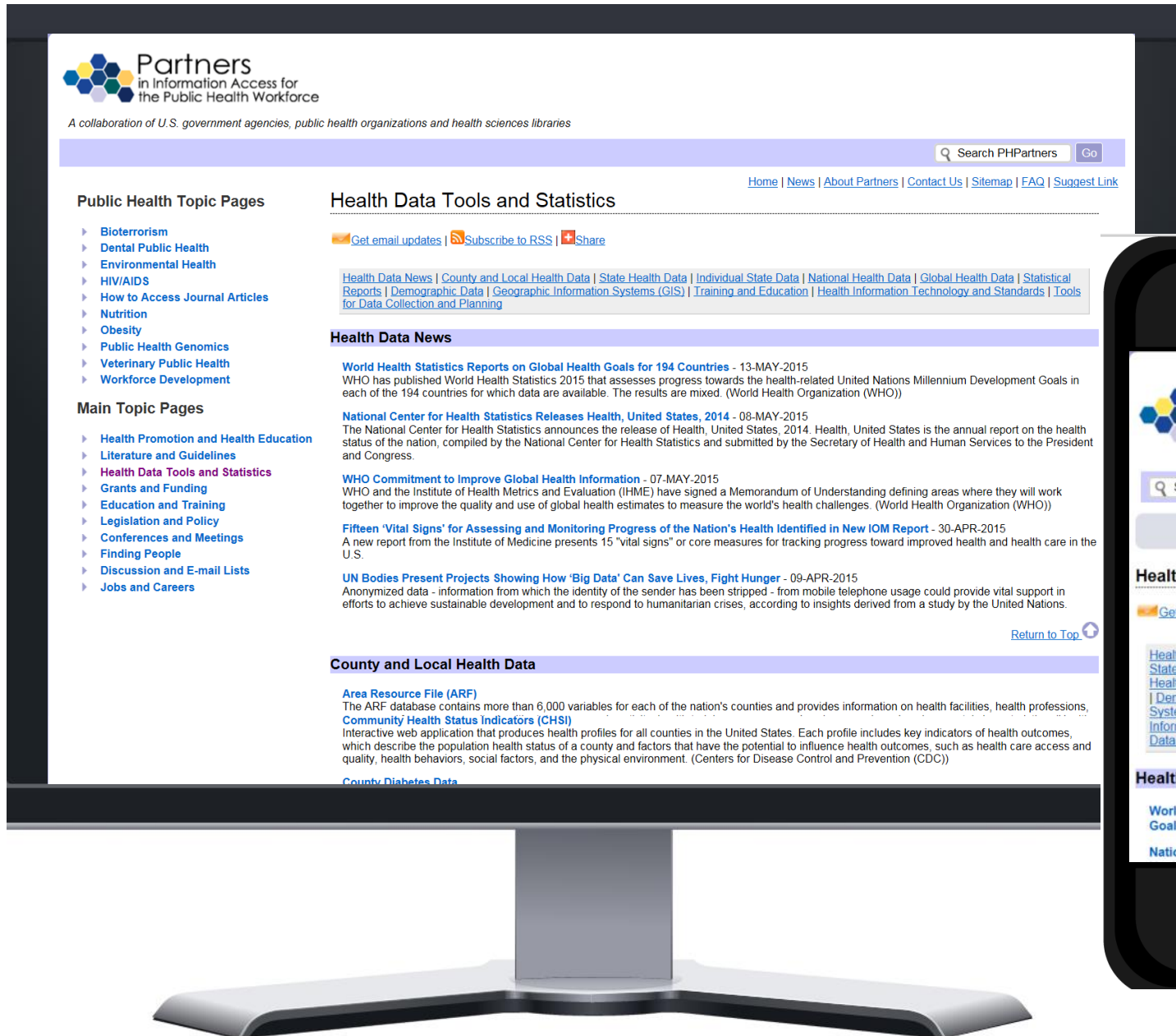
Smaller screen display:

- Text readable without zooming
- Easy tapping
- Three columns change to one column
- Menus and headings collapse
- Buttons replace text – click to open

PHPartners.org Responsive Design



PHPartners.org Responsive Design



PHPartners.org Responsive Design

County and Local Health Data

Area Resource File (ARF)

The ARF database contains more than 6,000 variables for each of the nation's counties and provides information on health facilities, health professions, measures of resource scarcity, health status, economic activity, health training programs, and socioeconomic and environmental characteristics. (Health Resources and Services Administration (HRSA))

Community Health Needs Assessment (CHNA)

Web-based platform designed to assist hospitals, non-profit organizations, state and local health departments, and other organizations seeking to identify and potential disparities in their communities. (Community Commons USA, Institute for People, Place & Possibility (IP3))

Community Health Status Indicators (CHSI)

Interactive web application that produces health profiles for all counties in the United States. Each profile includes key indicators of health outcomes, which describe the population health status of a county and factors that have the potential to influence health outcomes, such as health care access and quality, behaviors, social factors, and the physical environment. (Centers for Disease Control and Prevention (CDC))

County Diabetes Data

Atlas of county-level diabetes data and trends. (Centers for Disease Control and Prevention (CDC))

County Health Calculator

Tool for advocates and policy makers to understand and demonstrate how education and income affect health. (Virginia Commonwealth University Center for Human Needs)

County Health Rankings & Roadmaps

Provides county-by-county health rankings for each of the 50 states and Washington DC, explanations of each health factor, and actionable strategies to improve the health of communities across the nation. (Robert Wood Johnson Foundation (RWJF), University of Wisconsin)

Health Indicators Warehouse (HIW)

The Health Indicators Warehouse serves as the data hub for the HHS Community Health Data Initiative by providing a single source for national, state, and community health indicators. (National Center for Health Statistics, CDC (NCHS))

Interactive Atlas of Heart Disease and Stroke

An online mapping tool that documents geographic disparities in cardiovascular diseases and their risk factors at the local level. The Atlas allows users to view county-level maps of heart disease and stroke and include overlays of congressional boundaries and health care facility locations. In addition, county-level data on poverty rates, education levels, the food environment, access to health care, and other social factors are available. (Centers for Disease Control and Prevention (CDC))

County and Local Health Data

[Area Resource File \(ARF\)](#) [Details](#)

[Community Health Needs Assessment \(CHNA\)](#) [Details](#)

[Community Health Status Indicators \(CHSI\)](#) [Details](#)

[County Diabetes Data](#) [Details](#)

[County Health Calculator](#) [Details](#)

[County Health Rankings & Roadmaps](#) [Details](#)

[Health Indicators Warehouse \(HIW\)](#) [Details](#)

[Interactive Atlas of Heart Disease and Stroke](#) [Details](#)

[PeriStats](#) [Details](#)

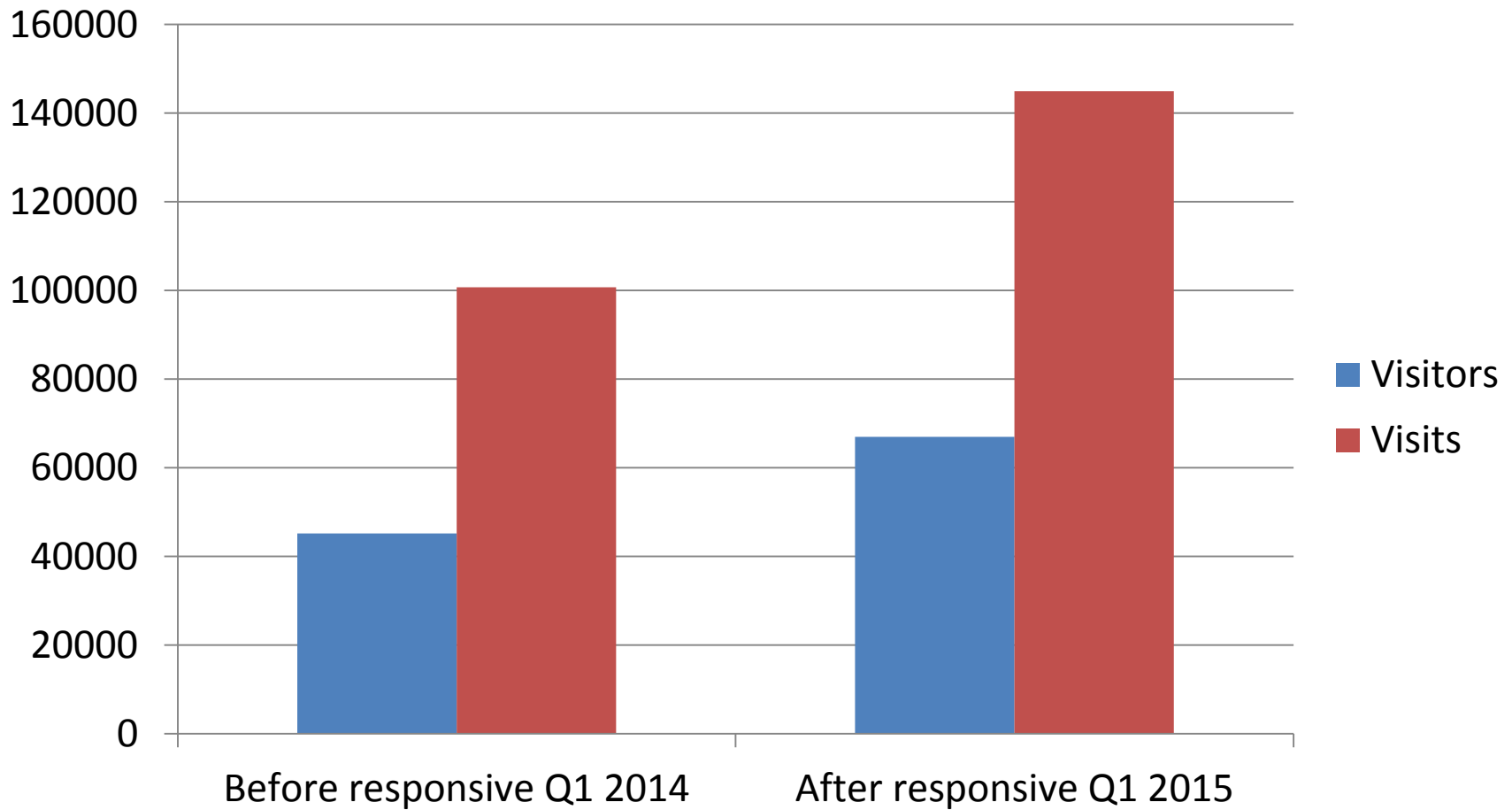
[Profile-IQ](#) [Details](#)

[SMART: BRFSS City and County Data](#) [Details](#)

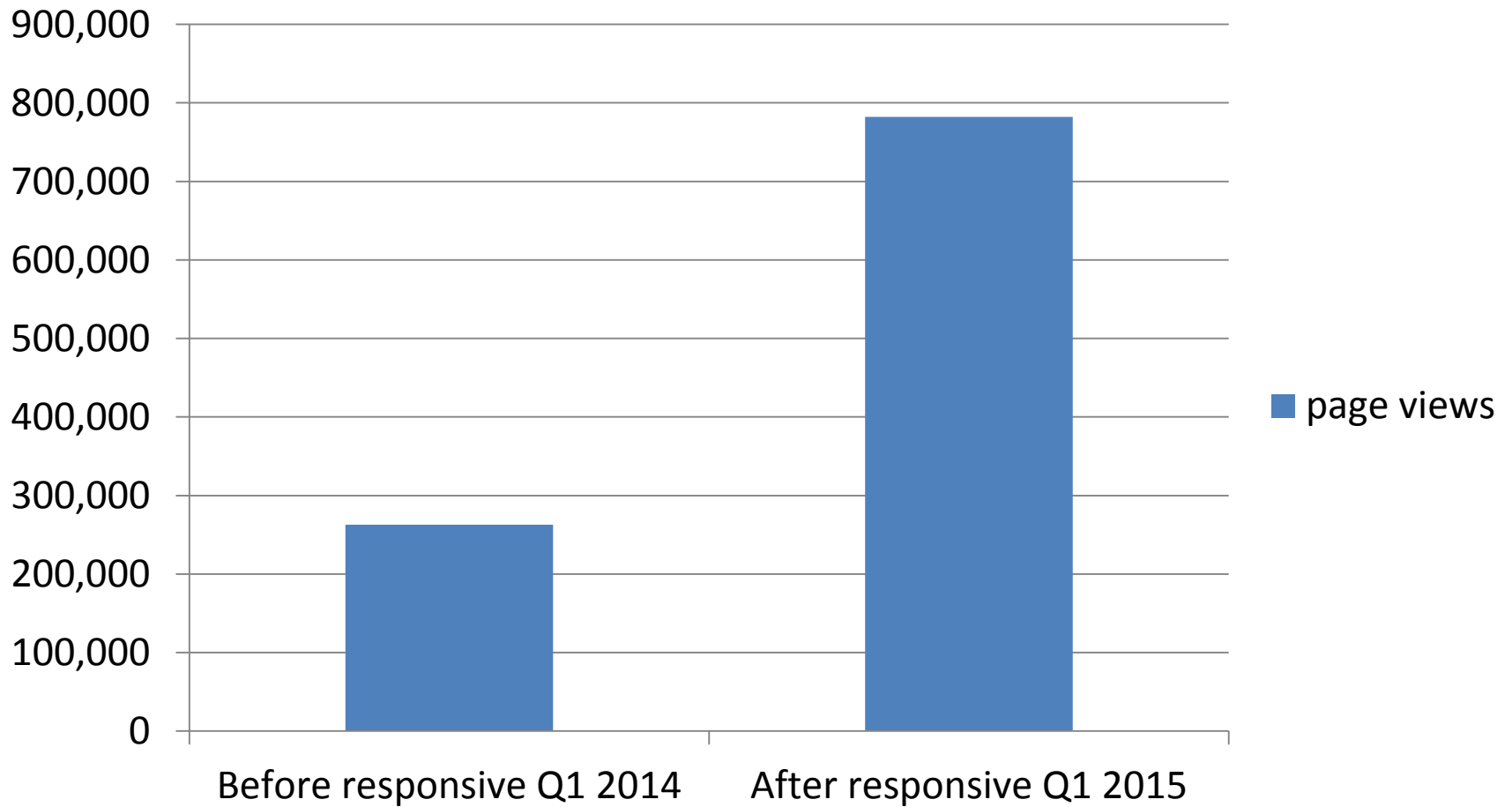
[Return to Top](#) 

State Health Data

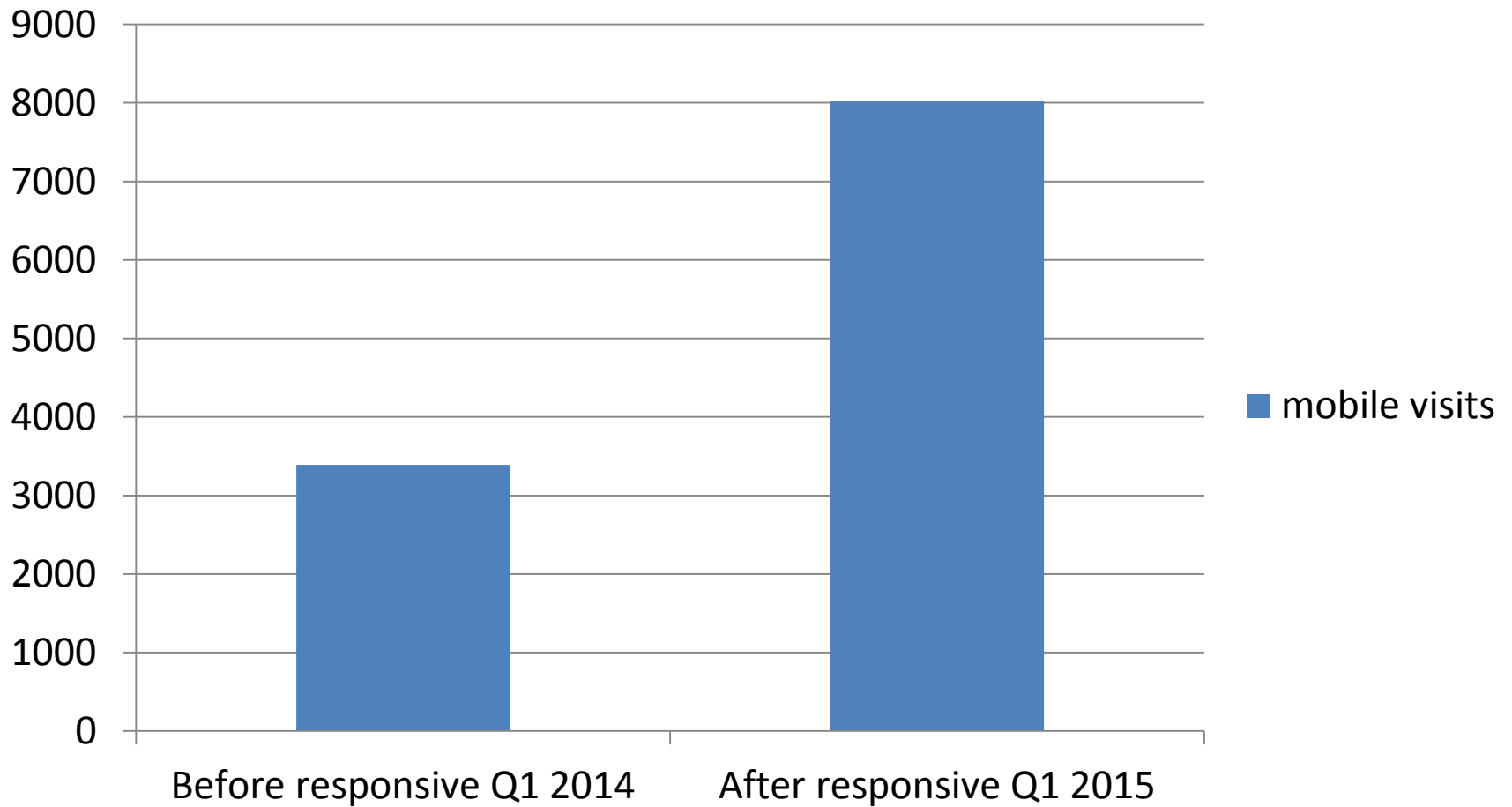
PHPartners.org Usage



PHPartners.org Usage



Mobile Visits



PHPartners.org

Post Responsive Design

- Overall increase in use of PHPartners site by 44%
- Mobile use increased by 137%
- 1/3 of increase of site visits can be attributed to Google referrals
- Referrals from Google increased by > 240%

Responsive Design Feedback

- Comments for PHPartners Editorial Board:
 - “I have tested the Responsive design – mobile version - and I like it. Kudos to you guys for getting it done.”
 - “Looks great”
 - “Very usable”
- Recommendation: improve display of search results
- Spread the word among Partner Organizations
- Test and report back

Challenges

- Technical team
 - Need their time and expertise
 - New tech (Apple watch) need to adapt and change
- Portal site
 - Not all links in PHPartners are responsively designed
 - More sites are moving to responsive design
 - Hoping this happens in a timely manner
 - When Partners released, not many of the public health sites were responsively designed, and did not have plans to become responsive

Addressing Issues

- Size and spacing of font and headings
- Headings and home page content
- Images in responsive design
- PubMed searches in site:
 - PubMed has a mobile site, limited functions
 - Will be responsively designed, but no date set
 - Other mobile only sites

Other NLM Responsive Design Sites

- M+ Medline plus
 - Consumer health information
- Daily Med
 - provides trustworthy information about marketed drugs in the United States. DailyMed is the official provider of FDA label information (package inserts)
- AIDSInfo
- Other NLM sites in process of responsive design



Responsive at NLM

NIH U.S. NATIONAL LIBRARY OF MEDICINE

REPORT ADVERSE EVENTS | RECALLS

DAILYMED

Enter drug, NDC code, drug class, or Set ID

MORE WAYS TO SEARCH: ADVANCED SEARCH | BR

This website contains 74033 drug listings as submitted to the Food and Drug Administration (FDA). At the present time, this Web site does not contain a complete listing of labels for approved prescription

NEWS

[DailyMed Announcements](#)

Posted: April 15, 2015

Desktop and tablet users can now find the DailyMed search box displayed at the top of DailyMed's pages. This interface change makes it much quicker and easier to search for drug labels on DailyMed.

UNIs, Inactive Ingredients, and Active Moieties have been added to DailyMed's Advanced Search Options.

[MORE INFO](#)

[Get RSS News & Updates](#)

The DailyMed RSS feed provides updates and information about new drug labels approved by the FDA and published on NLM's DailyMed Web site.

ABOUT DAILYMED

DailyMed provides trustworthy information about marketed drugs in the United States. DailyMed is the official provider of FDA label information (package inserts). This Web site provides a standard, comprehensive, up-to-date, look-up and download resource of medication content and labeling found in medication package inserts.

The National Library of Medicine (NLM) provides this service and does not accept advertisements. The information on this Web site is the most recent submitted to the Food and Drug Administration (FDA) and currently in use. For example, strengthened warnings undergoing FDA editorial changes. These labels have been reformatted to be easier to read.

[MORE INFO](#)

[Tips on How to Use the Site](#)

Need help using DailyMed? Learn how to find information you need, how to use a NDC Code, and more.

[TAKE A TOUR](#)

FDA GUIDANCES & INFORMATION

[View FDA Structured Product Labeling Resources](#)

[View FDA Drug Labeling Resources](#)

[View All FDA Drug Guidance Documents](#)

NLM SPL RESOURCES

The following Structured Product Labeling (SPL) resources have been created to assist health care professionals.

[Download Data](#)

[All Drug Labels](#)

[All Indexing Files](#)

[All Mapping Files](#)

[SPL Image Guidelines](#)

Guidelines for SPL image and dosage forms that are submitted with SPL documents.

[Presentations & Articles](#)

Stay informed through recent articles, online workshops and more.

SEARCH

ALL DRUGS | HUMAN DRUGS | ANIMAL DRUGS

Enter drug, NDC code, drug class,

ADVANCED SEARCH | MORE WAYS TO SEARCH

NEWS

[ABOUT DAILYMED](#)

[FDA GUIDANCES & INFORMATION](#)

[NLM SPL RESOURCES](#)

[APPLICATION DEVELOPMENT SUPPORT](#)

[HELP](#)



Environmental Health Student Portal


National Library of Medicine
**Environmental Health
Student Portal**
Connecting Middle School Students to
Environmental Health Information


Menu


Q Search Go


What is
Environmental
Health ?

Learn More

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Pollution**

 **Chemicals**

 **Climate
Change**

 **Water
Pollution**

What is Environmental Health? |
About | Site Map

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Library of Medicine **Health Hotlines**

Select a page

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Toll-free Numbers from the National Library of
Medicine's Health Hotlines Database
Números telefónicos sin cargo de la base de datos de
líneas directas, de la Biblioteca Nacional de Medicina

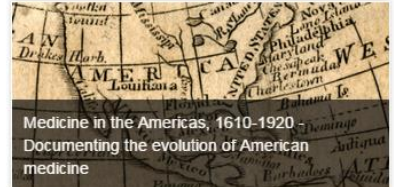




NLM Digital Collections

NIH Search...

Refine by:



Medicine in the Americas, 1610-1920
Documenting the evolution of American
medicine

Digital Collections is the National Library of
Medicine's free online resource of biomedical books
and videos. All of the content in Digital Collections is
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Freedom of Information Act, Contact Us

USA.gov

Next Steps

- PHPartners.org is undertaking a usability study
- We will get feedback from users, make adjustments as necessary
- Will incorporate any website changes into the responsively designed website
- Continue to adapt to new mobile devices

Thank you!

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National Library of Medicine

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NISO Webinar

June 10, 2015